

Early Stage Assessment
Electronic Supplementary Information (ESI)

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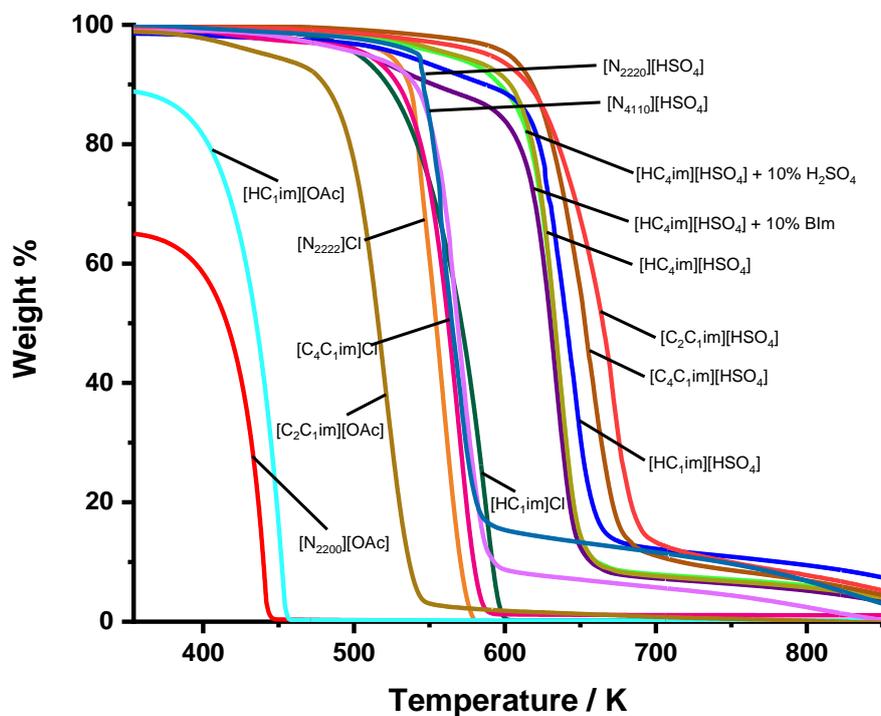


Figure 1 Overlay of TGA thermographs of all ILs studied (1 – 13)

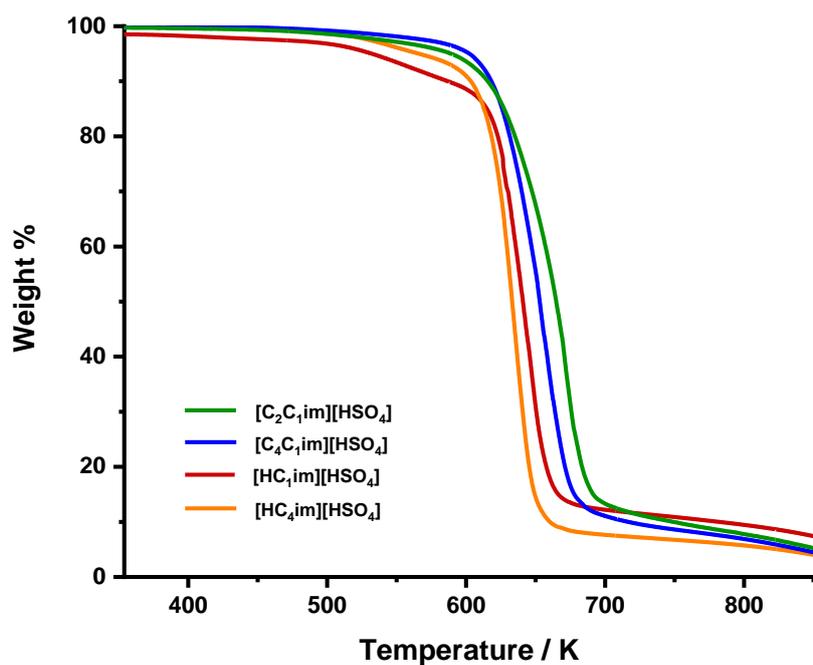


Figure 2 TGA thermograph of two aprotic imidazolium ILs and two protic imidazolium ILs. Both showing no significant change in stability

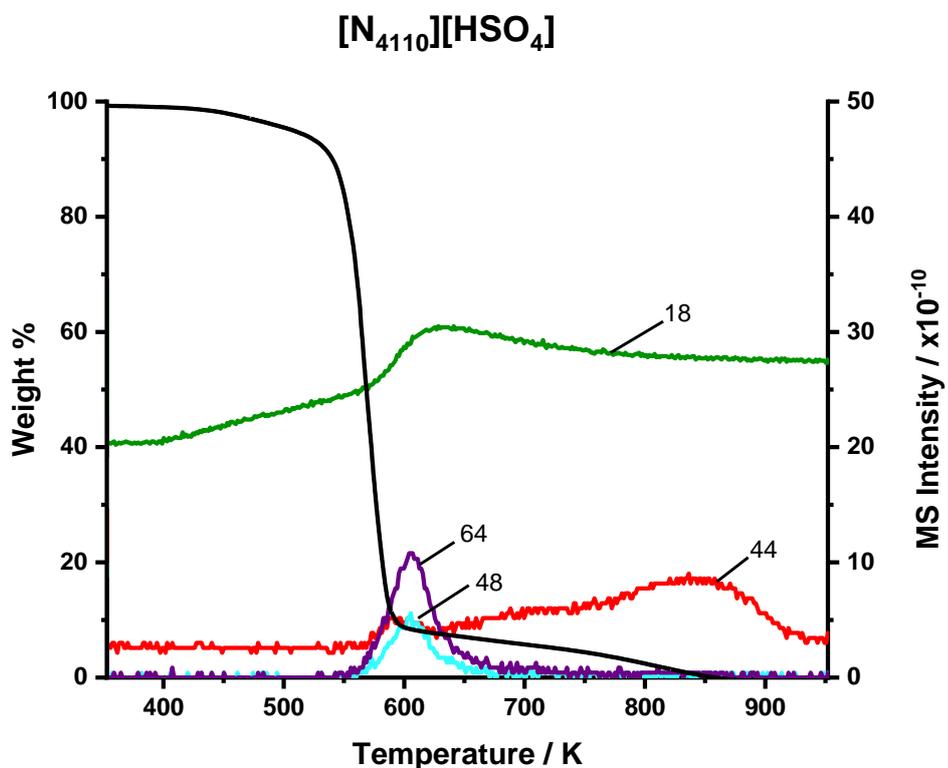
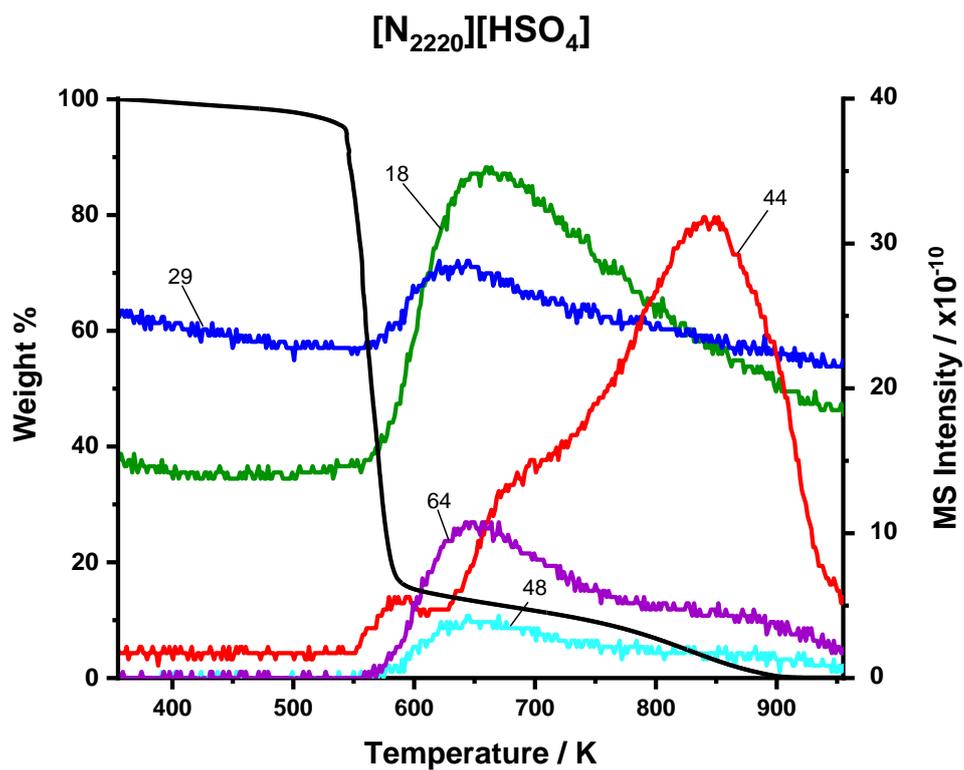


Figure 3 TGA-MS of protic ammonium hydrogen sulfate ILs. Both show same m/z values as imidazolium hydrogen sulfate ILs which are attributed to $[\text{H}_2\text{O}]^+$, $[\text{C}_2\text{H}_5]^+$, $[\text{CO}_2]^+$, $[\text{SO}]^+$ and $[\text{SO}_2]^+$ (m/z 18, 29, 44, 48 and 64 respectively)

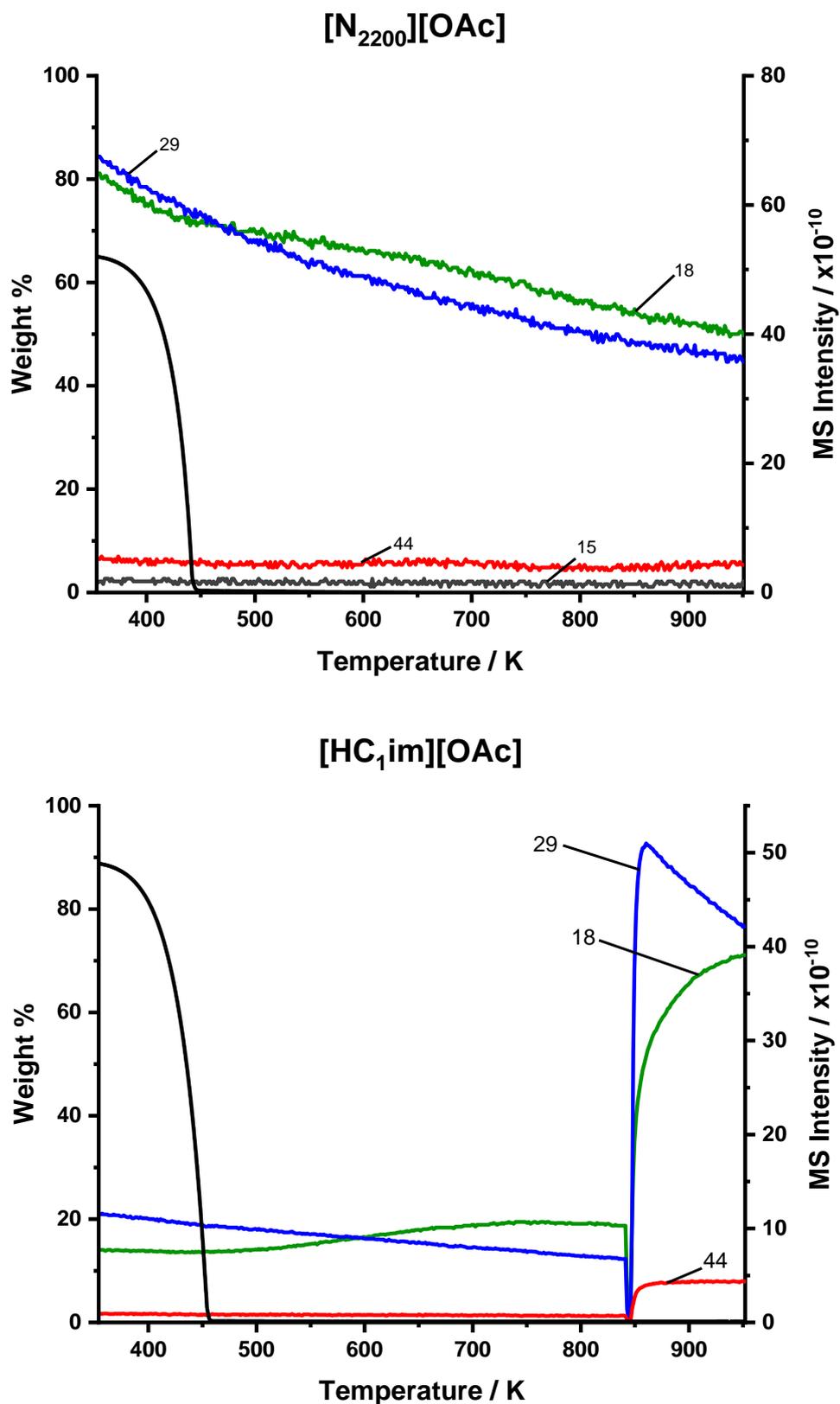


Figure 4 TGA-MS of protic [N₂₂₀₀][OAc] (**8**) and protic [HC_{1im}][OAc] (**9**). [N₂₂₀₀][OAc] shows no apparent presence of volatile species despite evaporation prior decomposition. [HC_{1im}][HSO₄] shows the recorded TGA-MS must be repeated as it looks unusual